REMARKS

INTRODUCTION

In view of the foregoing, claims 40 and 51 have been amended. No new matter is presented.

Reconsideration of the allowability of all pending clams is respectfully requested. Claim 51 has only been amended into independent form.

REJECTIONS UNDER 35 USC 102 AND 103

Claims 40, 46-47 and 49 stand rejected under 35 U.S.C. 102(e) as being anticipated by Ozkan et al., US Patent No. 6,111,611; and claims 42, 48, and 50-51 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ozkan et al. in view of Kondo et al., US Patent No. 6,763,522. These rejections are respectfully traversed.

By way of review, and only as a example, independent claims 51 and 40 respectively set forth:

> 51. A method of channel searching for a digital television receiver, comprising:
> converting a received radio frequency (RF) digital broadcast signal into a baseband signal and decoding the converted baseband signal to reconstruct a digital broadcast transport stream which includes audio data, video data, and program information;
> extracting the audio data, the video data, and the program information from the reconstructed digital broadcast transport stream and storing the extracted program information in a storage;
> processing the extracted audio data to be output as sound;
> processing the extracted video data to be output on a screen;
> accessing the storage to generate a channel list based on the stored program information,
> wherein the channel list is made up of one or more separately identifiable channel groupings, each having one or more two-part channel numbers, where each of the one or more two-part channel numbers includes a main channel number as a first part and a sub-channel number as a second part, and where each two-part channel number of a respectively identified channel grouping has a same main channel number and different sub-channel numbers; and
> enabling a user to navigate the channel list to search a two part channel number,
> wherein information included in the channel list is derived from program associated information from a Program Specific Information (PSI) table, for plural programs included in the transport stream conforming with an MPEG standard, wherein an identifiable program according to the MPEG standard is distinguished from a predetermined corresponding two-part channel number,
> *wherein the channel list is configured to be navigable between two-part channel numbers, of one or more two-part channel numbers of a first channel grouping, and between the first channel grouping and a two-part channel number of a second channel grouping,*

wherein the channel list is navigated in a first direction between the one or more two-part channel numbers of the first channel grouping, and navigated in a second direction between the first channel grouping and the second channel grouping, and
        wherein the first direction is different from the second direction.

40. A method of channel searching for a digital television receiver, comprising:

receiving a digital broadcast signal that includes audio data, video data, and additional information;

extracting the additional information from the digital broadcast transport stream and storing the extracted additional information;

generating a channel list based on the stored additional information; and

enabling a user to navigate the channel list to search a two-part channel number,

wherein the channel list is made up of one or more separately identifiable channel groupings, each having one or more two-part channel numbers, where each of the one or more two-part channel numbers includes a main channel number as a first part and a sub-channel number as a second part, and *where each two-part channel number of a respectively identifiable channel grouping has a same main channel number and different sub-channel numbers*,

        wherein the navigation of the channel list is performed in a two-dimensional numerical order, between two-part channel numbers of a channel grouping or between channel groupings, and

wherein *information included in the channel list is derived from program associated information from Program Specific Information (PSI) table data,* for plural programs included in a transport stream *conforming with an MPEG standard,* where an identifiable program according to the MPEG standard is distinguished from a predetermined corresponding two-part channel number.

First, it is respectfully submitted that Ozkan et al. fails to disclose the claimed channel list, as suggested in the Office Action.

With regard to a channel list that can be navigated by a user, Ozkan et al. does not provide any particular guidance as to what the navigable channel list would look like or how a user would navigate the channel list.

Ozkan et al. only generally describes that a user may be provided with some menu or some screen guide, without any further guidance as to what that menu or screen guide would look like or how a user would navigate through the guide.

For example, in col. 6, lines 43-49, Ozkan et al. sets forth:

The dual program channel identification numbers used to select sub-channel SC may be entered by the user in a variety of ways. *These may include using remote unit 70 to select sub-channel SC from within a hierarchical menu system displaying program channel selections in a program guide* or by simple sequential number entry via the unit 70 keypad, for example.

Here, Ozkan et al. is only vaguely describing that some type of menu or program

guide will be displayed to the user.

Differently, on page 4, *to describe the claimed channel list that must be enabled to be navigable by a user*, the Office Action appears to be relying upon the discussion in Ozkan et al. that identifies a channel map structure that is used by the decoding system, but this channel map is *completely different* from any navigable guide that may be output to the user through the OSD, as the channel map structure of Ozkan et al. is a table or mapping that enables the decoder to identify or link the correct program in the data stream with a user selected channel.

The Office Action relied upon channel map structure of Ozkan et al. is not displayed or enabled for navigation by the user, but rather used only by the decoder to identify correct programs, e.g., such as based upon their originated program identifying number that is _never_ shown to the user, that are to be decoded and displayed when the user selects a particular channel. The user never needs to know such program identifying numbers.

Thus, even though the user may use some displayed menu or guide that enables the user to select a particular channel according to a major channel number and a minor channel number, Ozkan et al. does not disclose or suggest what the actually displayed menu or guide would look like or how a user would be enabled to be navigate the menu or guide.

Therefore, it is respectfully submitted that the rejections under 35 USC 102 and 103 of the claims based upon the channel map structure of Ozkan et al. are in error, as Ozkan et al. does not disclose or suggest the claimed channel list enabled for navigation by a user of independent claims 40 and 51, as only examples.

Based at least on the above, withdrawal of these rejections is accordingly requested.

In addition, as Ozkan et al. **only** provides a decoder system that uses a channel map based upon major channel numbers and minor channel numbers, without any example or suggestion of what navigable channel list would look like or how a user would navigate the same, the Office Action's proposed modification of Ozkan et al. to include a user navigable guide of a secondary reference would have to *substantially* rely upon the teachings of the secondary reference.

In this regard, briefly, it is respectfully submitted that if Ozkan et al. were modified based on the teachings of Kondo et al., the resultant combination would have to substantially rely upon the guide system proposed by Kondo et al. Further, any resultant combination should also substantially rely upon the underlying problems and solutions respectively discussed and overcome by the system of Kondo et al.

Kondo et al. is directed to generating a navigable guide with virtual channels of only channels that are actually broadcasting through 'virtual channel simplification' where only received minor channels are reviewed, and the navigable guide *only* presents verified program guide information of broadcasting minor channels for a current major channel.

In rejecting claims 50 and 51, for example, on page 7, the Office Action respectively sets forth:

> In considering claim 50, Ozkan et al disclose all the limitations of the instant invention as discussed in claim 40 above, except for providing the claimed *wherein the channel list is navigated in a first direction between the one or more two-part channel numbers of the first channel grouping, and navigated in a second direction between the first channel grouping and the second channel grouping*. Kondo et al teach that Figs. 2A through 20 illustrate a single EPG, it is understood in view of the foregoing discussion, that *a plurality of EPGs may be simultaneously displayed on the video display* **for each** *of the minor channels of the currently tuned major channel* (Figs. 2A through 20, col. 6, line 7 to col. 7, line 65). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the EPG display as taught by Kondo et al into Ozkan et al' system in order to provide updated program and system information. (Emphasis Added)

> In considering claim 51, the claimed wherein the first direction is different from the second direction is met by the Electronic Program Guide display (Figs. 2A through 20, col. 6, line 7 to col. 7, line 65 of Kondo et al).

Accordingly, in rejecting claims 50 and 51, the Office Action has set forth that if the teachings of Kondo et al. were applied to the system of Ozkan et al. system, then the modified system of Ozkan et al. would disclose at least the claimed features of claims 50 and 51.

However, it is respectfully submitted it would not have been obvious to modify the system of Ozkan et al. based upon the teachings of Kondo et al. to read on all claimed features, and even if Ozkan et al. were modified based on Kondo et al., the ultimate combination still would not disclose at least the claimed "*wherein the channel list is navigated in a first direction between the one or more two-part channel numbers of the first channel grouping, and navigated in a second direction between the first channel grouping and the second channel grouping, and wherein the first direction is different from the second direction,*" of independent claim 51, or at least the claimed "*wherein the navigation of the channel list is performed in a two-dimensional numerical order, between two-part channel numbers of a channel grouping or between channel groupings,*" of independent claim 40.

Kondo et al. suggests to generate virtual channels of only channels that are actually broadcasting through a 'virtual channel simplification' where only received minor channels are reviewed. Of the minor channels that are reviewed a 'virtual channel' is configured based upon names of each major channel and names of minor channels, so a displayed channel listing is based upon the names of a channel.

Kondo et al. first performs a filtering stage to derive the selective virtual channels, i.e., to identify only broadcasting major/minor channels from all available major or minor channels that may or may not be actively broadcasting, such as described in col. 10, lines 21-36.

Further, instead of providing navigation of a channel list in a two-dimensional numerical order, between two-part channel numbers of a channel grouping or between channel groupings, Kondo et al. is particularly focused on only displaying a non-numerical listing of names of available minor channels for a named single major channel, and then only information for a single minor channel of the displayed available minor channels.

For example, in FIGS. 2A-2D, Kondo et al. only provides a listing of names of minor channels of a single major channel, and then only program guide information for a named single minor channel. Further, in FIGS. 2A-2D, any navigation between names of minor channels is performed in *a same direction* as navigation between names of major channels.

FIG. 2A of Kondo et al. sets forth such an arrangement with a current television show or graphic of a particular underlying program within a PIP area above the corresponding *named* minor channel based program guide info. The user is permitted to select a particular named minor channel by continuing to navigate in a same direction as when the named major channel is traversed.

FIG. 2B of Kondo et al. sets forth an overlaying of the program guide information over the current television show or graphic of the particular underlying program and permits the user to select different *named* minor channels in a *separate a drop down menu*.

FIG. 2C of Kondo et al. is similar to FIG. 2A but provides future programing time duration information for the single named minor channel. The user is permitted to select a particular named minor channel by continuing to navigate in a same direction as when the named major channel is traversed.

FIG. 2D of Kondo et al. is likewise similar to FIG. 2B also providing the programming time duration information within the overlay. FIG. 2D also permits the user to select different *named* minor channels in a *separate a drop down menu.*

Here, Kondo et al. is directed to displaying names of channels, not based on channel numbers or two-part channel numbers, and fails to disclose or suggest that a user would ever be enabled to navigate the channel list *in a two-dimensional numerical order, between two-part channel numbers of a channel grouping or between channel groupings*.

Applicants further direct the Examiner to the attached Exhibit, which is a Declaration by Dr. Glenn Arthur Adams Jr. discussing both Kondo et al. and Ozkan et al. that was submitted in the related co-pending application Serial No. 12/822,878. The entirety of the Declaration remarks are

incorporated herein. As noted in paragraph 1 of the <u>Declaration</u>, Dr. Adams:

> [Is] the co-author of ATSC A/65 Program and System Information Protocol (PSIP) and a member the ATSC T3/S8 (the committee which published the PSIP); my publications include co-author A TSC A/65 (PSIP), author and editor A TSC A/1 00 (DASE), A/1 01 (ACAP), co-author Cablelabs OCAP (tru2way); author and editor Cablelabs EBIF, co-author Unicode Standard; co-author ISO/IEC 10646, co-author ISO/IEC TR 15285, co-author W3C HTML, CSS, DOM, XSL-FO specifications, and author and editor W3C Timed Text specification... [and his experience] includes Digital Television (DTV) Systems Architect for Gemstar International, responsible for DTV Electronic Program Guide technologies, including use of ISO/IEC 13818-1 PSI and ATSC A/65 PSIP for transmission and navigation of Electronic Program Guide information.

Dr. Adams' opinion of <u>Kondo et al.</u> is partially repeated below from paragraphs 6-18 of the <u>Declaration</u> (pages 4-6):

> 6. In my opinion, Kondo does not discuss channel numbers, but rather discusses channel names. Figures 2A-D of Kondo do NOT display a main (major) channel number. Indeed, notwithstanding the col. 6, line 15 statement "for the currently selected major channel", a main (major) channel number is NOT depicted in Figure 2A. Furthermore, the association of a single name "FOX" with a "major channel" is not supported or borne out of PSIP which Kondo uses (see the discussion below), for every minor channel in a PSIP VCT may use a different name (leading to no common name for a 'major' channel designation), and every minor channel in all PSIP VCT may use the same name (leading to inconsistencies or incorrect grouping of minor channels with an arbitrary name).

> 7. In Kondo Fig 2A-D, if there has been a grouping of entries around the values appearing in the VCT short_name fields, e.g., all entries that share the value "FOX" are grouped together, then such a grouping is entirely arbitrary and is not related to sharing the same physical channel number or sharing the same VCT major channel number.

> 8. All the discussion in Kondo revolves around displaying a list of minor channels (names). Kondo does not specify display of major (main) channel program information or any relationship between minor (sub) channel program information and major (main) channel program information.

> 9. Kondo addresses navigation of channels by using a list that includes minor channel names.

> 10. Figures 2A-D of Kondo depict the use of a synthesized NAME for the purpose of identifying a virtual channel (what Kondo refers to as a 'minor channel'). For example, both 'FOX' and 'FOX-1' are names, not numbers. Kondo further does not teach how these names are synthesized (derived), and a number of possible methods are evident to a practitioner. That is, Kondo does not teach the use of main and minor channel numbers.

> 11. Kondo uses the names 'FOX-1 ', 'FOX-2', etc., in Figures 2A and 2C, while a sub-menu with entries '1', '2', etc., are shown under a 'FOX' menu in 2B and 2D. Let us divide the two parts of 'FOX-1' into *part-1* 'FOX' and *part-2* '1 '. Now, *part-1* may be derived from multiple sources, including (1) the short_name field of the VCT, or (2) indirectly, using the source_id field of the VCT to access a pre-stored database

of sources to lookup a source name.

12. It should be noted that Kondo col. 10, line 25 refers to a 'channel identifier' as an attribute of a 'major channel' obtained by 'scanning the broadcast frequency slots'; however, the form and source of this identifier is not indicated. It could be a physical channel number, a transport stream identifier, a logical major channel number (as obtained from a VCT entry), or a name as described in the previous comment.

13. The derivation of *part-2* of examples 'FOX-1 ', 'FOX-2', etc., may be derived from multiple sources, including (1) the minor_channel_number field of the VCT, (2) the program_number field of the VCT, (3) the entry number of the VCT (entry 1, 2, ...),or (4) information indirectly derived from a source database using the source_id field as a index.

14. The two part names depicted by Kondo in Figures 2A and 2C are NAMES, and are NOT NUMBERS. The inclusion of a NAME based component (part 1) requires that the composition (part 1 plus part 2) be interpreted as a NAME or IDENTIFIER. In Kondo, these names/identifiers designate virtual channels (what Kondo refers to as a 'minor channel'). That is, the Kondo names are not numbers.

15. In Kondo Figures 2B and 2D, the use of a sub-menu identifier '1' through '5' in the context of a main menu identifier 'FOX' constitute alternative representations of NAMES, and NOT NUMBERS. In these cases, the combination of the 'FOX' main menu identifier and the '1' through '5' sub-menu identifiers are clearly equated with the two-part names 'FOX-1' through 'FOX-5' shown in Figures 2A and 2C.

16. Kondo implies but does not teach that unification is possible and used with the names of a group of virtual channels that share the same major channel number. 2A through 20 show a unified name 'FOX' applied to virtual channels 'FOX-1', 'FOX-2', ..., 'FOX-5'. As such, Kondo relies upon the displayed grouping being based on the unification of part 1 of Kondo's two part channel name identifiers.

17. Note, that irrespective of the use of part 1 name information, Kondo col. 14, line 6+ implies a (unification) grouping based upon "minor channels that are being simultaneously broadcast by said selected broadcaster", where by 'selected broadcaster' we must read "selected physical transmission channel". This would not by itself necessarily permit unification of multiple virtual channels under a single part 1 name component.

18. When Kondo uses 'major channel', it designates a 'physical transmission channel' (PTC) (cf. column, 1, line 60, column 10, line 21 +), while 'minor channel' designates a 'virtual channel' (VC) (cf. column 1, line 62). Kondo uses two-part name identifiers to designate VCs. Kondo uses an unspecified, hidden unification method to group VCs under a single component of these two part name identifiers. Kondo does not address non-unification conditions (distinct short names of related VCs in a single PTC). Kondo does not use numbers, either one-part or two-part numbers, to designate VCs.

In addition, applicants further direct the Examiner to paragraphs 23-34 of the Declaration (pages 10-13), which discusses Ozkan et al. and the obviousness of a combination of Ozkan et al. and Kondo et al.

First, at the time of execution of the <u>Declaration</u>, the <u>Declaration</u> referenced claim 5 of the related application set forth:

> A method of channel searching for a digital television receiver, comprising:
> receiving a digital television transport stream which includes audio, video, and program information;
> extracting the program information from the received transport stream;
> storing the extracted program information in a storage;
> accessing the storage to generate a channel list based on the stored program information, wherein the channel list comprises at least one channel number and the at least one channel number comprises at least one main channel number in the received transport stream; and
> navigating the channel list to search a channel number,
> wherein when the at least the one main channel number has at least one corresponding sub-channel number in the received transport stream, the sub-channel number can be listed after the at least one main channel number,
> wherein the channel list can be navigated using Program Specific Information (PSI).

Beginning in paragraph 24, the <u>Declaration</u> first cites the following statement from an Office Action in the related application:

> [T]he disclosure of Ozkan is proof that major and minor channels being transmitted via PSI was within the capabilities of a skilled artisan at the time of the invention. Ozkan discloses that program meta-data can "comply with Program Specific Information (PSI) requirements specified in section 2.4.4. of the MPEG system standard" ((2:55-59). This meta-data includes program information, including major and minor channel numbers (3:54-4:22; 5:63-6:35; Fig. 3). Applicant argues on pages 13-14 that PSI could not carry the same information as PSIP, as PSI is only designed to carry 80kbps, while PSIP carries 100kbps. This is irreverent, as Ozkan has shown that the major and minor channel numbers are effectively transmitted using PSI.

Thereafter, in paragraph 25, the <u>Declaration</u> provides a detailed explanation of major/minor channel numbers and the PSI of the present application, with regard to whether <u>Ozkan et al.</u> discloses the claimed use of PSI, stating:

> In conclusion, it is impractical (and possibly impossible) to effectively use MPEG-2 PSI to deliver the same program information meta-data as defined by PSIP (A/65) in a manner that complies with ATSC A/53 Digital Television Standard, and thus, that would comply with FCC regulations.

> Consequently, a skilled artisan WOULD NOT consider the use of MPEG-2 PSI as a viable alternative for delivery of program information.

With regard to <u>Kondo et al.</u>, in paragraph 27, Dr. Adams explains that:

> The program and system information (PSI) discussed in Kondo, the electronic program guide (EPG) information that includes event information discussed in Kondo, and the Program and System Information Protocol (PSIP) (see col. 2, lines 42-50) *are all different from the Program Specific Information (PSI) [of the present application]*

With regard to a proposed combination of <u>Kondo et al.</u> and <u>Ozkan et al.</u>, paragraphs 32-34 of the <u>Declaration</u> (page 13) conclude with:

> 32. The EPG data and "program specific information" discussed in Ozkan, particularly as discussed in col. 5, line 63-col. 6, line 43, is different from the Program Specific Information (PSI) of claim 5 for the reasons discussed below.
>
> 33. The Master Guide Table (MGT), a Channel information Table (CIT), Event Information Tables (EITs) and as Extended Text Tables (ETTs} used by Ozkan are very different from the tables of Program Specific Information (PSI) stored as a table with respect to program associated information prescribed in MPEP-2.
>
> 34. In my opinion, one of skill in the art would not look to the discussions of Ozkan or Ozkan in combination with Eyer and Kondo to improve the digital television receiver of claim 5 so that a channel list of main and sub channel numbers can be navigated using Program Specific Information (PSI).

Accordingly, based upon the discussions in the <u>Declaration</u> Exhibit, it is further respectfully submitted that it would not have been obvious to combine the teachings of <u>Kondo et al.</u> with the system of <u>Ozkan et al.</u> as suggested in the Office Action.

In addition, even if the teachings of <u>Kondo et al.</u> were applied to the system of <u>Ozkan et al.</u>, as suggested in the Office Action, based at least on the above it is respectfully submitted that the combination still would not disclose or suggest at least the claimed "<u>*wherein the channel list is navigated in a first direction between the one or more two-part channel numbers of the first channel grouping,* **and** *navigated in a second direction between the first channel grouping and the second channel grouping, and wherein the first direction is different from the second direction,*</u>" of independent claim 51, or at least the claimed "<u>*wherein the navigation of the channel list is performed* **in a two-dimensional numerical order, between two-part channel numbers of a channel grouping or between channel groupings**</u>," of independent claim 40.

Based at least on the above, withdrawal of these rejections is accordingly requested.

Therefore, it is respectfully submitted that independent claims 40 and 51 are patentably distinct over either <u>Ozkan et al.</u> individually, or a combination of <u>Ozkan et al.</u> and <u>Kondo et al.</u> respective dependent claims are equally in allowable condition based on their respective features and dependencies from allowable base claims.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is

requested to telephone the undersigned to attend to these matters.

        If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

                                            Respectfully submitted,
                                            STAAS & HALSEY LLP

Date: January 11, 2013   By: /Stephen T. Boughner/
                                                   Stephen T. Boughner, Reg. No. 45,317

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501